A STUDY OF THE EFFECTIVENESS OF A SPECIALIZED INTERMEDIARY EXERCISE PROGRAM ON SEDENTARY LESS WELL OLDER ADULTS

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The results of this study suggest a number of factors that must exist for proper physiological and psychological changes to occur in a physical fitness program for an older adult. It was very difficult to get a substantial sample size because of the lack of involvement of many of the nursing homes in Calgary. It is very difficult under any circumstances to get less well older people to participate and to keep coming to an exercise program. It was difficult to attract and maintain participants in this study. Body Recall was not part of the existing program, so other activities may have taken precedence. Some participants divided their time between two programs. Participation and involvement are important principles of viability for any activity because individuals have to become involved before they can reap any of the benefits. Participation rate and sample size was disappointing. All results must be interpreted cautiously because of the small, non-random sample. In the majority of the comparisons of the pre and post-tests for significant statistical change, it was the small sample size and the short length of the study period that were possible reasons for non-significant findings. Also, the average age of 76 years of the participants could also have affected the results. Age was the most important variable followed by gender, then by group. Other factors that may have affected the results may have been the different testers that performed the pre and post-tests, which could not be controlled. Health factors and motivation also play a major role in performance.

In the Control Group, only one significant statistical change was observed between the pre and post-test scores: flexion of the right ankle. There is no discernible cause for only the right ankle flexion test to show significant statistical change.

There was no significant statistical change exhibited for muscular strength and endurance and cardiovascular endurance in the Control Group in pre and post-test results.

In the Body Recall Group, pre and post-test results left neck flexion, left ankle flexion, right and left shoulder flexion showed a significant statistical change. These individuals participated in the ten week Body Recall program, but all the individuals attended the sessions at a sporadic rate and at times their participation was poor. These factors, motivation and the time of testing, and having different testers performing the pre and post-tests could be reasons for the lack of flexibility increases in all areas of the body that was examined.

Joint flexibility is modifiable through exercise programs. The degree to which this is illustrated depends on the age and the participation rate of the participants. A statistically significant change at all body sites may have resulted if participants would have attended the majority of Body Recall sessions, but attendance fluctuated in a regular basis. Regular participation in an exercise program improves cardiovascular efficiency, so more improvements in this area of this study may have been exhibited with regular attendance of the program. Muscular strength and endurance increase and there is a significant improvement in muscle function through regular training which means regular participation in a physical activity program.

Muscular strength and endurance was found to be significantly different with the number of modified push-ups individuals in the Body Recall Group performed from pre to post-test time periods. Throughout the ten week program there was improvement seen in the number of modified push-ups individuals performed but the number of modified curl-ups performed did not improve significantly. The two-minute-walk-on-the-spot cardiovascular endurance test was also found to be significantly different from pre to post-test results.

The Body Recall program was effective in improving some of the physical fitness components of the older adult population in this study. The failure to obtain improvements in some of the physical fitness areas may be explained either by the lack of participation in the Body Recall sessions, which would be an insufficient amount of time to produce a change in these variables, a lack of motivation on the part of the participants and the instructor's hesitation to have the individuals perform some of the exercises. The greater age of most of the participants may have masked their real gains in some of the physical fitness component areas.

It is unlikely that successful implementation of any physical activity program could depend upon the motivation of the participants themselves. Sidney (1975) suggests that little study has been done to determine what factors motivate a person, especially an older person to exercise either alone or in a group. It is also unclear what factors operate to sustain interest and ensure continued participation. Individuals must become regularly involved in a physical activity program before they can receive its benefits.

It was hypothesized that feelings of well-being would remain the same in the Control Group in pre and post-test results and this was

illustrated in the findings. There was no significantly statistical changes found in the Body Recall Adult Questionnaire, the ABS or the MUNSH tests.

In the Body Recall Group it was hypothesized that participation in a ten week exercise program would increase the feelings of well-being amongst the individuals involved in the group. It was shown in the pre and post-test results that there was no change in the Body Recall Adult Questionnaire responses from week 5 to week 10. There was a significant change in the MUNSH results in the areas of positive affects, positive and negative experiences. There were also significant changes observed on the ABS on the variables of joy, contentment, guilt and affection. This study showed that although there was very little significant difference observed in the physical tests, there were more significant statistical differences exhibited in people's feelings of well-being. Even though they may not have participated to the full extent and many were of advanced age, they still felt good about themselves and were able to express their various emotions. It is possible that these changes occurred because of the increased attention that was given to participants by the exercise instructor and testers. Also, many participants may have a desire to please the instructors and testers and this would affect the perceived gains.

The best support for the hypothesis that the Body Recall program will improve well-being is provided by the data on the ABS and MUNSH tests. The MUNSH test is an appropriate and well accepted measure of psychological well-being. According to Kozma and Stones (1983) the MUNSH is a composite of items taken from existing life satisfaction and happiness scales, on the basis of high correlation with self-appraised happiness ratings. It has an acceptable internal consistency score (7.80), a good test/retest reliability (R=.70) and a superior correlation with the criterion measure (R=.67). Feelings of joy, affection and contentment (ABS) and positive affects and experiences were exhibited in the pre and post-test results. These finding seem to provide sufficient justification for involvement in a exercise program. Possible changes in happiness may result from the increased frequency in positive social and environmental interaction. Negative experiences shown in the MUNSH were not as significant. From the results, we can see that exercise and socialization improves psychological well-being.

CONCLUSIONS

Adequate physical fitness allows the older adult to carry out daily duties and responsibilities more readily and easily with enough physical reserve to enjoy social, civic, cultural and recreational activities and to meet emergency demands (Government of Canada, 1982). It is very important that positive and effective health and fitness programs are available for the older less able adults. These programs can assist them in their advanced years to live in a more fit lifestyle, be happy and in good health. Individuals in nursing homes tend to exaggerate the risks involved in physical activity and underestimate their own abilities and capabilities. This is all the more reason why the Body Recall program is so effective. It educates the older adult about their body, improves their level of fitness if they participate regularly and enhances feelings of well-being. The goal in Body Recall is to encourage and preserve physical and social skills, so that the older adult can maintain their independence and interact with one another. Older less well adults face an important choice because as they grow older they can either be active and fit or sedentary and suffer a lingering decline.

In this present study it was very difficult to get a large number of nursing homes to participate and even more of a problem getting support and cooperation from the staff and administration. Nursing home administration and staff must be educated on the benefits of a physical activity program. They must assist in promoting the program and concerning themselves with the attendance of the participants. The staff must see the program as being very beneficial and not just a make-work project. A physical fitness program must be seen as an integral part of the older adults' health care. Instructors in the Body Recall should be educated in this area in order for it to be beneficial.

Every effort should be made to keep the older adult as fit and as independent as possible because physical activity helps to foster independence among senior citizens. A big advantage of increased fitness for the older adult lies in the attainment of an increased level of self-sufficiency in the performance of everyday tasks such as reaching for something a a shelf, dressing or being able to put on one's shoes without assistance. Despite excessive years of inactivity, a certain level of fitness can be restored to the older adult.

Individuals must be continually encouraged to persist with their physical activities because gains in physical activity are lost with a few weeks of inactivity or bed rest. Older adults can be motivated to participate in physical activity programs. A fun group environment

must exist to motivate senior citizens to become involved and stay involved in a physical activity program. Instructors should be aware of the benefits of regular exercise and the proper way for senior citizens to do the exercises. Thus. the program could better educate its participants as to the importance of regular physical activity for the maintenance of health and overall well-being. Physical activity programs should encourage older adults to be more active, independent and mobile. The prescribed activity program must be perceived by the older adult as being safe, convenient and appropriate.

The older adult age group is the fastest growing in our population. Physical fitness is important for this age group because they typically become less active as they age. We are entering an era of research and knowledge that indicates we are far better off if we develop life-long programs of physical activities Life-long exercise programs seem to show some promise for increasing the length and quality of life.

Fitness programs must be consistent with the older adults' needs, desires and wants. Constant evaluation is necessary to ensure that programs offered for the older adult are consistent with their physical fitness requirements. Awareness of and enthusiasm for any new activity in a nursing home environment is likely to build slowly. The ten week Body Recall program was too short a period to document any sort of a trend. If physical fitness programs are to gain credibility by policy decision-makers and acceptance by the older adult, they will need to be based on sound scientific principles and diverse enough to meet a variety of physiological and psychological needs.

RECOMMENDATIONS

The findings from this study have a number of implications for improvements in the physical fitness area for the older less well adult. These include:

1. There is a need to examine the various aspects of setting up and maintaining activity programs in geriatric facilities because there is little practical value in demonstrating the benefits of activity, unless the intended beneficiary is persuaded to be and remain active.

2. There is a need to observe what factors operate to sustain interest and ensure continued participation in a physical activity program.

3. There is a need to look at what factors motivate an older person to exercise, either in a group or alone.

4. There is a need for a study to be done on the attitudes of the medical, administrative and nursing personnel towards physical activity programs for older adults in their care.

5. There is a need to examine if the institutionalized older adults' participation in a regular physical activity program would reduce medical problems and hospital costs.

6. There is a need to establish mechanisms for assessing participants with respect to current levels of physical activity, known health problems and background characteristics. Also, assessing participants progress at various intervals and monitoring programs would assist in determining what are appropriate programs for particular groups of older adults.